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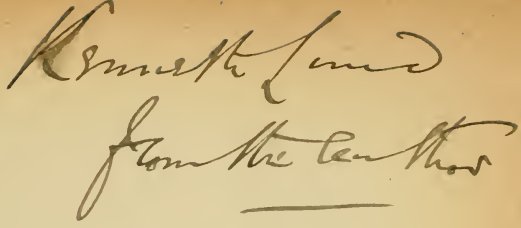

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THE

MEDICINE OF THE ANCIENTS

An Introductory Address

DELIVERED AT THE

LIVERPOOL ROYAL INFIRMARY SCHOOL OF MEDICINE,

OCTOBER 2ND, 1875.

BY

EDWARD H. DICKINSON,
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Lecturer on Comparative Anatomy and Zoology;
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Liverpool.

LIVERPOOL:
ADAM HOLDEN, 48, CHURCH STREET.
1875.

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MEDICAL CENTER

TO THE

HONOURED MEMORY

OF THE LATE

JOSEPH DICKINSON, M.A., M.D., F.R.C.P., F.R.S.,

THIS ADDRESS TO THE STUDENTS

OF THE

LIVERPOOL ROYAL INFIRMARY SCHOOL OF MEDICINE,

IN THE WELFARE AND SUCCESS OF WHICH HE

TOOK A DEEP AND ACTIVE INTEREST,

IS INSCRIBED

BY

HIS SON.

LIVERPOOL, *October*, 1875.

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"Though a man cannot invent new things after so many, he may do a welcome work yet, to help posterity to judge rightly of the old."—BEN JONSON.

Gentlemen,

We are assembled to-day in obedience to a time-honoured custom throughout the Medical Schools of England, and on the present occasion the favour of my colleagues has accorded to me the honour and privilege of addressing you. I feel it, indeed, to be both of these when I see before me an audience such as the present—an audience (I speak now of its student portion) such as scarce another provincial, and but few metropolitan schools, can surpass even in numbers—none, I hope I may safely say, in the character and efficiency of its individual members. Gathered around me, too, are many who, no less by the influence of their personal example and upright conduct, than by their scientific attainments and practical skill, have earned for themselves a high position among us, and who have laboured zealously, and laboured with success, to elevate the standard and uphold the dignity of our profession in this great town. We are honoured moreover in the person of our Chairman,* by the presence amongst us

* Dr. Humphry, F.R.S., *Professor of Anatomy in the University of Cambridge.*

to-day of one of the great leaders in the van of scientific progress and improved medical education in this country—one whose able and useful work, notably in the fields of Operative Surgery and of Anatomy, Human and Comparative, is well known to you all, and needs neither comment nor eulogy from me. It is no small gratification, I am assured, to us all to have this opportunity of welcoming Professor HUMPHRY amongst us, and we must tender him our most cordial thanks for having consented to travel so far to preside over our gathering on this occasion. He comes to us a representative of one of the greatest seats of learning in the world, the classic abode for centuries of the highest forms of intellectual activity and cultivation, yet I think we need feel no shame, but rather pride and satisfaction in pointing out to him what we can do and are doing *here* in the cause of medical education and advancement. I trust, therefore, that when Professor HUMPHRY leaves us, he may carry away with him no unfavourable impression of the character and efficiency of our present work; and may recognise that it is not only in commercial—but in scientific and professional—enterprise that *Liverpool* may assert her just claim to success. And, indeed, for acquiring knowledge and imparting information, as well in Medicine and Surgery as in all the collateral scientific branches of a thorough medical education, we have the most

admirable facilities in our midst. We have numerous large and well arranged hospitals, both general and special, in which injury and disease may be observed under every aspect, and where for the most part clinical and pathological demonstrations are given daily; while our Medical School buildings, enlarged and perfected as they now are, are replete with every convenience for study and instruction which the experience of the past can suggest, or the exigencies of the present demand. With these surroundings, then, and with so much good material within our reach, it would, I confess, reflect but little credit upon us if we did not, one and all, make good use of our many advantages, and do something worthy of note for the advancement of our own knowledge, and for the hygienic benefit of the community at large.

But I must not now comment further upon our opportunities as a body, but rather hasten to employ such as the present moment may afford to myself.

It is usual, Gentlemen, in an Address such as I have the honour of delivering to you to-day, to take for its basis some topic which shall possess an interest for the more senior members of the audience, while it at the same time fulfils its primary and essential purpose by adapting itself to the requirements of the commencing student. To accomplish this judiciously and with satisfaction to all is, I take it, by no means easy; not indeed

from a dearth of material that is suitable, but from the almost total impossibility of obtaining such as is original or new, and of avoiding fulsome repetition of what has been already said upon innumerable occasions similar to the present. When, some few months ago, I was invited to deliver this Inaugural Address, I proposed to myself, after considerable deliberation, to take for my text, *The Times and Writings of Hippocrates*, and set to work accordingly, during leisure hours, to collect and arrange my materials. I was led to make choice of this subject, partly from personal taste and some little previous acquaintance with it; partly from the fact that, as far as I was then aware, it had not been similarly utilised of late years; but chiefly from the conviction, which has often forced itself upon me, that far too little knowledge exists as a rule among the younger members, at any rate, of our profession, of its early history and condition, as disclosed to us in the writings of its illustrious Patriarch. In August last, however, I found (somewhat to my dismay — I must fain ~~pro~~fess) that my scheme had been thoroughly anticipated by Dr. Begbie, of Edinburgh, in his most able and scholarly address delivered at the recent meeting of the British Medical Association, an address which some now present had the good fortune to listen to, and which doubtless most of us have since read. I have been led, therefore, in a great measure to forego my original design, and, without

actually abandoning it altogether, to alter its substance, and extend its scope.

I propose, then, to-day to give a brief sketch of the state of *Medicine among the Ancients generally*, making only incidental reference to *Hippocrates* as one who forms a necessary—and, indeed, the most important—feature in the course of such a narrative.

The early history of the Healing Art, and its gradual development, must, I think, ever possess the deepest interest for its present disciples, and vast stores of useful information and sound instruction may assuredly be derived from the contemplation of its records. Few subjects, indeed, can offer a more agreeable study, or one more worthy of an educated and philosophic mind, than the progress of human industry and human thought as displayed in the advancement of a Science which has for its object the relief of the sick and the health and preservation of mankind. We are all too apt, upon attaining what we are pleased to regard as the platform of our aspirations, to spurn away the ladder up which we have climbed. Gladly enough do we avail ourselves of the labours and discoveries of those who have gone before us; but how seldom, in these days of high-pressure life, keen competition, and uncompromising realism, do we pause for a moment and glance backward through the annals of the past to enquire into the springs of thought and action which animated our pre-

decessors, or pay a passing tribute of respect and gratitude to their worthy and illustrious memories!

Of the absolute origin of Medicine, under which term we include both Physic and Surgery—distinctions of more recent times—we possess at the present day little if any authentic information. But as long as mankind has existed, so long must the bodily ills, and "the thousand natural shocks that flesh is heir to," have existed also; and we cannot but suppose that some attempt, however crude, must have been made from the first to guard against disease and alleviate suffering. A certain kind, therefore, of medical practice must have obtained in the most primitive period and in the rudest state of society; though doubtless every man in those days was literally "his own doctor," whose remedies were suggested by accident or instinct and gathered from the vegetable world.*

Going back, however, as far as we have any reliable data—or rather any data at all,—and following the most orthodox traditions and best received opinions upon the subject, we may trace the origin of Medicine, as of most other arts of early civilisation, and, in all probability, of Man himself, to the region commonly known to us as "The East." This term sounds comprehensive and vague, but (as has been well shown by

* *Conf.* Cels., *De Medicina*, lib. i., Prefat.

Dr. Millar) may be generally understood to refer to that great tract of country which lies, roughly speaking, between the banks of the Ganges and the southern confines of Thibet on the one side, and the borders of the great Libyan Desert on the other, and which, as the supposed "cradle of our race," has been not inaptly termed by that author "the Primeval Chersonese." In what particular spot of that Eastern land the springs of human knowledge were first opened up from which the great tide of civilisation was destined to roll onwards, till it has eventually encompassed the wide earth, we cannot venture to affirm. But, as far as the Healing Art is concerned, the first distinctive practice of it probably existed among the *Egyptians;* and its earliest records that we are called upon to notice, are associated with the history of that ancient people. But even in Egypt, Medicine could scarcely be said to exist as an independent art, being intimately connected, like all other higher branches of knowledge, with religious worship, and, accordingly, vested in the priesthood, among whom it descended from father to son. That this was also the case among other primitive and semi-barbarous nations we shall presently have occasion to note, and we can easily understand its being so, seeing what a powerful instrument the healing of disease would necessarily prove in the hands of the priests, and how greatly it would tend to strengthen their influence

amongst a superstitious and credulous people. Though chiefly, if not entirely, limited to the priesthood, Medicine seems to have had numerous professors among the Egyptians, for later on we are told by Herodotus* that "all places abound in physicians" (*πάντα δ' ἰητρῶν ἐστὶ πλέα*), and that "each one of these applies himself to one disease only—some being for the eyes, others for the head, others for the teeth, others for the abdomen, and others for internal disorders." Specialists, truly, in the most literal signification of the term!

The process of embalming the dead, so well described by Herodotus,† though apparently one of little more than simple evisceration, no doubt afforded to those who practised it (*ταριχευταί*) some insight into the internal structure of the human body, rough and superficial as such insight must necessarily have been. We learn from the same author, that the early Egyptians were in the constant habit of using clysters, emetics, plasters, and unguents. They employed fumigations with various drugs; frictions with crocodile's fat in rheumatism; and recognised the diuretic properties of squill in dropsies. This people is accredited also with having discovered phlebotomy from observation of the habits of the hippopotamus of the Nile, which animal, when it has become too bulky (as Pliny tells us‡) from

* Herod. *Euterpe*, 84. † *Ibid*, 86-90.

‡ Plin., *Hist. Nat.*, lib. viii., c. 40.

over-feeding, opens a vein in the thigh with a sharp reed, and closes the wound afterwards by covering it with mud. This, I need scarcely say, is but an ingenious fable; and it is probable, as pointed out by Dr. Wardrop, that blood-letting was first suggested to mankind at a very early period by observation of the phenomena of vicarious and spontaneous hæmorrhages, the manifest relief that they frequently afford, and the serious mischief at times arising from their suppression.

To the existence of Medicine amongst the *Hebrews* we find occasional though scanty reference in the pages of Scripture; and from these we gather, that for a long period its practice was delegated almost solely to the Levites, whose agents were rather prophylactic than remedial, and consisted chiefly in strict attention to hygienic measures, such as the isolation of leprous and other contagious cases, the burning of infected garments, frequent ablutions, and the quasi-surgical operation of circumcision.

The *Assyrians* and *Chaldees* had, it would appear, no authorised system of medical practice at all; and we are told by Herodotus* that the Babylonians were in the habit of bringing out their sick into the market-places, when passers-by were expected to confer with the sick person, and advise him or her as

* Herod., *Clio*, cxcvii.

to the best means of cure from the result of their own experience.

To Medicine among the *Chinese*, *Persians*, and *Hindoos*, I shall merely make a passing allusion, for but little of its early condition is known. The Chinese claim the reputation of having a code of medical precepts as far back as 2000 B.C. They probably possessed definite writings on the subject at least as early as 1000 B.C., and there still exist copies of a work on Pharmacology of very great antiquity, which contains an account of very numerous articles of Materia Medica. They used opium largely in dysentery and as a general sedative, and mercury, rhubarb, assafœtida, moxa, and croton oil were among their specified remedies. Among the Hindoos and Persians there is little doubt that Medicine, in respect at least of Materia Medica, as well as many of the economic arts, must have existed to some extent at a very remote period. The therapeutic value of many of the indigenous herbs of India and Persia, such as galbanum, datura, assafœtida, nux vomica, sagapenum, opium, &c., was well known to the inhabitants of these countries, and they were made the objects of trade and barter with surrounding nations.

Passing now from Egypt and the East, we come to notice the state of Medical knowledge among the early *Greeks*. And if we have hitherto found its

history shrouded in mystery and darkness, so shall we still have to regard it during that long mythological epoch commonly known as "The Heroic Age."

The Greeks, in common with most other primitive people, were wont to ascribe the invasion of disease to the anger of the Immortals, to whom therefore in their distress they naturally looked for aid. Hence they regarded the first principles of the Healing Art as a direct gift from heaven, embodied in the mystic person of PÆON or APOLLO, or of his son ÆSCULAPIUS, by the nymph Coronis. Who Æsculapius really was, whether a mythical or veritable personage, is entirely a matter of doubt, and to us but of small importance. It seems, however, more than probable that at some remote period of history there did exist an individual eminent above his fellows for his medical knowledge, so that after death he was worshipped as a god, and has been regarded ever since by posterity as the first great professor of the Healing Art.

We read of him in Homer, and of his sons MACHAON and PODALIRIUS, who accompanied the Greeks to Troy, and whose practice would seem to have consisted almost solely in the surgical treatment and dressing of wounds. In the Iliad,* we are told that when Menelaus was wounded with an arrow by Pandarus, Machaon was summoned at once, and, after extracting the weapon,

* Hom. *Il.*, iv., 218-9.

he sucked out the blood from the wound, and sprinkled the latter with soothing drugs (ἤπια φάρμακα). Podalirius, too, was reputed a skilful surgeon, and the first among the Greeks to practice venesection. Having on one occasion drawn blood from the arm of the daughter of the king of Caria with a favourable result, he was presented by the grateful monarch with the very handsome fee of the lady's hand and a dower of half the kingdom.

For a period of some seven hundred years after the fall of Troy, an event usually dated about B.C. 1180, the history of Medicine is buried in almost total obscurity. No name of any note has reached us, unless indeed we except that of PYTHAGORAS, whose researches, however, being chiefly in the domain of Natural and Moral philosophy, contributed only in a very limited and secondary manner to the advancement of the Healing Art. This branch of knowledge was in early ages, as we have already seen, intimately blended with the observances of religious worship; and among the Greeks, during the dark epoch of which we are speaking, it was confined to the ASCLEPIADES, or priests of Æsculapius, who ministered in the temples dedicated to that god. The whole system of Medicine as practised by these priests was interwoven with mystery and delusion, and founded solely upon oral traditions handed down from father to son, and upon the accumulated records of cases

preserved on votive tablets within the temples. Such temples, or *Asclepia*, were erected for the most part on elevated and salubrious sites, often in the vicinity of *thermæ* or medicinal springs; and, being resorted to by the sick from the surrounding country, they early acquired something of the character of hospitals, and subsequently of medical schools. Three of these Asclepia soon became celebrated above all others as storehouses of medical knowledge—viz., those of Rhodes, Cnidos, and Cos—especially the two last named, between which a spirit of rivalry was long and vigorously maintained. The Asclepion of *Cos*, however, was destined to eclipse all others, and to obtain for itself an abiding renown by producing among its attendant priests the man who has through all after-ages been recognised as the "*Father of Medicine*," the great HIPPOCRATES.

The birth of Hippocrates, in the 80th Olympiad, or about B.C. 460, may be said to have taken place under singularly happy auspices, occurring, as it did, at a time when the Empire of Literature, Philosophy, and Art in Greece was approaching the zenith of its fame. In youth he had for his instructors Gorgias the Sophist, Democritus the Physicist, and Herodicus the Gymnasiarch; while his father, Heraclides, an Asclepiad of Cos, imparted to his son such medical knowledge as he himself possessed. Among the subsequent contemporaries of Hippocrates were the great philosophers

Socrates, Plato, and Xenophon; the historians Herodotus and Thucydides; the dramatists Æschylus, Sophocles, Euripides, and Aristophanes; Pindar, the lyric poet; Phidias, the sculptor; Zeuxis, the painter; and many others, whose names are renowned among posterity and who have immortalised the age in which they lived. Among associations such as these it is perhaps the less to be wondered at that the brilliant genius and powerful intellect of the youthful Hippocrates should have developed apace, and ripened into that penetrating sagacity and clear judgment, which enabled him to free himself from the trammels of ignorance and superstition and to rise like a star in the dim twilight of barbarism. He found Medicine in a condition scarce deserving the appellation of an Art; he left it raised to the dignity of a Science. Hitherto the sole guide for practice had been experience and observation of the casualties of disease, and a vast accumulation of traditional data: no attempt had been made to draw inferences from these, or to arrange them into anything like a definite classification. Effects were observed, their causes disregarded: symptoms arrested attention according to their severity, the measures for their relief rested upon the uncertain memories of previous successes, or the vague suggestions of individual caprice. For Hippocrates it was reserved to rescue the name of Medicine from the grasp of charlatanry, and from a vast chaos of

undigested facts to found a new system of practice, based upon the combination of sound reasoning with experience and upon the true principles of philosophical induction.

Hippocrates was wont to recognise the all-prevading presence of some mighty and invisible power, "the hypothesis of a principle," which he denominated "Nature" (Φύσις). This he believed to be the essential spirit of all vitality, promoting and modifying growth, preserving the functions of the body in health, and tending to restore them when disturbed by disease *(vis medicatrix)*. Hence he held that the physician should be Nature's minister, and should seek to foster rather than retard her operations. Yet he fully appreciated the frequent necessity for extraneous interference; and, when the exigences of the case demanded it, his practice was fertile in resource and prompt and unflinching in action. He seems to have performed most of the Surgical operations then known (except lithotomy), as well as many which may be more strictly termed *Medical*, *e. g.*, thoracentesis, venesection, and wet and dry cupping; and he had apparently a special predilection for the actual cautery.

That Hippocrates was pre-eminently a student of Nature, as we in the present day understand the term, is evidenced everywhere throughout his writings, and his descriptions of its varying phenomena and of many

forms of disease, the types of which are but little if at all altered in our own day, are singularly apt and distinctive. Hence we can understand the very close attention he always paid to *prognosis*, in which he acquired such marvellous skill as to earn for himself the title of the "Oracle of Cos." He fully recognised the importance of preventive and sanitary as well as palliative and therapeutic measures, and laid great stress, therefore, upon the proper regulation of diet, baths, and exercise. He was apparently the first who drew special attention to the nature of Epidemics, and to the influence upon the animal economy of such external agencies as climate, water, and situation, and his treatises upon these subjects (Επιδημών and Περὶ ἀέρων, ὑδάτων καὶ τοπών) display in every line the discernment of their author, and the wonderful accuracy of his observations. As regards Pathology, Hippocrates held that an abnormal condition of the four fluids of the body or "Humours," as he called them (χυμόι)—blood, pituita or phlegm, and yellow and black bile,—was the initial cause of all disease, while health depended upon their accurate distribution. Upon these *principia* was grounded the doctrine known as the "Humoral Pathology," which remained as the ruling theory of all morbid processes up to quite recent times. In reference to this doctrine, and to those of "Crisis" and of "Critical evacuations," Hippocrates based his therapeutic practice, superin-

tending and, when necessary, assisting the efforts of Nature for the elimination of morbific matter. As to the knowledge of Anatomy possessed by Hippocrates,—this must have been very small indeed. It seems probable that he never had an opportunity of dissecting the human body, so that all he knew on this subject must have been gathered from examination of the lower animals. This being so, and with such meagre and insufficient materials at his command, can we cease to wonder at and admire the marvellous genius and sagacity of this man, which enabled him to accomplish so much in his own day, and in many cases to foreshadow truths which were only established long centuries afterwards! Assuredly it may be predicated of Hippocrates that he was

> "One of the Few—Nature's Interpreters—
> The few whom Genius gives as lights to shine,"

and that as he did more for the Science of Medicine than any or all that preceded him, so also has he never been surpassed in any after age as a glory and ornament to our profession.

I would gladly have said more concerning the "Father of Medicine," and made more particular reference to his various works, such as are generally recognised as genuine, especially to the *Aphorisms* by which he is best known to posterity; but I forbear to do so for the

reasons already stated at the commencement of this address.

For a long period after the death of Hippocrates but little advance was made in the Healing Art. It seemed as if that great master mind had for awhile exhausted the fountains of Medical knowledge, and anticipated the research of his more immediate successors. His sons THESSALUS and DRACO, following in their father's footsteps, inherited the legacy of his doctrines and discoveries, and in turn transmitted them to subsequent generations of Asclepiads. They are the reputed founders of that particular rationalistic sect, the disciples of which received the name of "Dogmatists." The principles of this sect were based upon theory deduced from the contemplation of causes—proximate and remote—and from the generalisation of facts as they were observed in practice. Excellent as this plan of proceeding must doubtless be considered when followed in its integrity, it is manifestly one very open to abuse and the invasion of very grave errors from rash and unwarranted speculation. That such errors did very rapidly creep in and make themselves perceptible in the doctrines of this school we know to have been the case. Hence arose, at a somewhat later period (about B.C. 290), another and opposing sect, who took the title of "Empirics," and professed to be guided in their practice by the results of experience alone.

Although, as we have said, for a long period after the death of Hippocrates there were no men pre-eminent in Medicine, yet we must not omit the mention of the two great philosophers, PLATO and ARISTOTLE, whose extraordinary genius and powers of mind exerted, indirectly, no small influence upon its growth and development as a science. Neither of them indeed were practitioners of Physic, nor even wrote specially upon the subject, but they devoted no little attention to its study as an important branch of Natural Philosophy. The innate bent of the great mind of Plato was ever towards speculative enquiry into the mysteries of Creation and the physical as well as the intellectual nature of man. Hence the subject of Physiology, if at that time it deserved the title,—the study of the functions of the human body—largely engaged his attention, and there are frequent allusions to it in many of his writings. His disquisitions, however, upon this topic (as we read them in the *Timæus* and *De Republicâ*) are so interwoven with hypothetical vagaries and recondite sophistries, that we cannot regard this great philosopher as having, in respect of any solid truths, advanced the Science and Art of Medicine.

To Aristotle we are perhaps more deeply indebted, for he made such deep researches into the hitherto unexplored regions of the animal world as left to future ages a vast fund of Zoological information, affording scope

and facility for analogical comparison and a stimulus to the enlarged observation of Nature.

About B.C. 300, upon the decadence of the literary and political supremacy of Greece, and the dismemberment of the Macedonian Empire, was established the great *School of Alexandria*. Under the munificient patronage of the Ptolemies, a splendid National Library and a Museum of Natural History were founded in this city, which was destined for several centuries to be the great stronghold of all branches of learning, and to inaugurate a new and important epoch in the history of Medical Science.

Hitherto the superstitious veneration for the bodies of the dead, and the inveterate prejudice and stern law which forbade all attempts at *post-mortem* investigation, had caused Human Anatomy to remain almost an occult Science. This great obstacle to the growth of all true medical knowledge was, however, now removed, and the practice of dissection was allowed by the government, which so far encouraged it as to hand over the bodies of criminals for examination. Henceforward Anatomy was studied with care and assiduity, and, under its two notable professors, Herophilus and Erasistratus, made rapid progress. Herophilus investigated almost every region and organ of the human body, many of which he described with singular precision. He was the first to demonstrate, with any degree of clear-

ness, the structure of the heart and great vessels, though, like all his predecessors, he believed the arteries to be filled with air, a mistake not unnaturally arising from the fact of their being always found empty after death. He described most accurately many parts of the brain, which he regarded as the centre of the nervous system, and the confluence of the cranial sinuses still retains his name (*Torcular Herophili*). He divided the nerves into three kinds, having also some knowledge of their functions, though he still committed the old blunder, long subsequently retained, of confounding them with ligaments and tendons. He observed the course of the lacteals, though failing to understand their office, and was the first to pay attention to the condition of the pulse, and form an approximate idea of its diagnostic value in the varied phases of disease. With Herophilus was closely associated his contemporary, Erasistratus, and these two may justly be regarded as the pioneers of strict anatomical research, though it does not appear that in other respects they contributed much to the advancement of Medical Science.

Medicine now, says Celsus,* began to be divided into the three branches of Dietetics, Pharmacy, and Surgery. These terms can scarcely be said to have had

* Iisdemque temporibus in tres partes Medicina diducta est: ut una esset, quæ victu; altera quæ medicamentis; tertia quæ manu mederetur. Primam διαιτητικὴν, secundam φαρμακευτικὴν, tertiam χειρουργικὴν, Græci nominarunt.—Cels., *De Medicina*, lib. i., Prefat.

the same meaning as at the present day, and though each section had its separate professors, their provinces were but loosely defined, and the distinction in many instances was probably more verbal than real. The same may be said too in a measure, remarks M. Cabanis,* of the great rival schools of the Dogmatists and Empirics, to which we have already alluded, and the latter of which arose about this time with SERAPION and HERACLITUS at its head.

The special department of Surgery seems to have received much attention in the School of Alexandria, and most of the major operations of the present day were probably performed there. The catheter was used by Erasistratus; machines were employed for reducing dislocations of the femur; hœmorrhages from extremities were checked by ligatures applied round the limb, above the seat of lesion; lithotomy was performed by specialists in that operation; and we are told by Celsus † that one *Ammonius* invented an instrument for crushing vesical calculi, when too large for extraction by the ordinary method. In this last case we are afforded one instance among many of the truths which are being from time to time established, that many of the refinements of modern instrumental surgery are but improved resuscitations of ancient models after centuries of disuse and oblivion.

* *Revolutions de Science Medicale.*

† *De Med*, lib. vii., c. 26.

For some centuries the great School of Alexandria continued to flourish, though its earliest were also without doubt its palmiest days. By degrees, a neglect of careful and patient research after truth became apparent; scepticism and fraud reasserted their baneful sway; rival schools sprang up — notably that of *Pergamus*, in Mysia, where there existed a library of some 200,000 volumes; and shortly after Alexandria was brought under the dominion of Rome, its school fell into gradual decay, still, however, retaining something of its old repute, more especially as a centre of Medical education, till its destruction by the Saracens in the seventh century after Christ.

Following now the tide of learning, as it set from the shores of the Delta to those of Western Italy, we come to speak briefly of the Medical Art as it obtained amongst the early *Romans*. Of its condition in the earlier history of that people we need say but little, for it was not until towards the decline of the Republic and the establishment of the Empire that Medicine attained any prominence as a Science or Profession.

For upwards of six centuries after its foundation, we are assured by Pliny,* Rome was without a physician at all. What little was then known of Medicine was in the hands of slaves and freedmen, and its practice was so mixed up with the popular absurdities of divination,

* *Hist. Nat.*, lib. xxix., c. 5.

and the observation of religious and superstitious rites, that the low estimation in which this Science was long held in Rome is scarcely a matter for astonishment.

Another circumstance, moreover, tended largely to keep Medicine in disfavour, namely, the fact of its acquirement from the Greeks, whose ideas the Romans were tardy in adopting, though subsequently their own highest efforts both in literature and in art (and, I may add, especially in Medicine) were for the most part but elaborate imitations of Grecian prototypes. Of the opinion held in Rome, in the time of M. Cato (about 180 B.C.), of Medicine and other Greek accomplishments, we may form some idea from a letter of the Censor to his son, transcribed by Pliny,* which is but a scurrilous diatribe against Greeks in general, and Greek physicians in particular. Gradually, however, the Roman mind became more enlightened and appreciative, and as political relations with surrounding countries developed, popular prejudice against foreign innovations began to relax, and regular practitioners of Medicine from Greece and elsewhere took up their abode in Rome.

The first of these of any eminence was ASCLEPIADES, who came over from Bithynia, and soon acquired for himself a high reputation and great popu-

* *Hist. Nat.*, lib. xxix., c. 7.

larity in the city of his adoption. He appears to have been naturally endowed with agreeable manners, great tact, and a shrewd insight into human nature; and to the possession of these very useful qualifications he probably owed much of his professional success. He, however, introduced several improvements into Medicine, and divided Diseases into Acute and Chronic. He decried the use of the violent remedies then in vogue, and prescribed regimen and exercise, with a pretty liberal allowance of wine. In fact, the essence of his practice may be inferred from his own now well-known apophthegm,—*Officium est Medici ut tuto, ut celeriter, ut jucunde curet.*

Asclepiades was followed by his pupil THEMISON, who adhered for the most part to the principles of his master, especially in respect of his favourite doctrine of the relaxation and constriction of pores. This doctrine Themison considerably elaborated, and upon it founded what is known as the "Methodic School," the disciples of which adopted a middle course between the tenets of the Dogmatists and Empirics, and rejecting the humoral pathology, placed the proximate cause of all morbid actions in the solids rather than the fluids of the body. Passing over the mention of SORANUS and CŒLIUS AURELIANUS, the great champions of the Methodics, as well as of several other physicians of minor note, and without stopping to enquire into the origin or doctrine

of the sect known as the "Pneumatics," who based their principles upon the omnipotent agency of an immaterial spirit (Πνεῦμα), or of the "Eclectics," whose views (as we should expect from the title they affected) were the most comprehensive and philosophic of all the sects,—we arrive at the name of one of the greatest of ancient medical authors, CORNELIUS CELSUS.

Little is known of the early life and circumstances of this celebrated Roman, and doubt has even prevailed as to whether he was ever, strictly speaking, a medical practitioner. We know that, in addition to his great work, *De Medicinâ*, he wrote treatises upon Agriculture, Rhetoric, and Military Tactics, which treatises are, however, now lost. Celsus was a warm admirer of Hippocrates, whose principal writings he translated into Latin, and also of Asclepiades, of whose practice he highly approved. He exhibits a most thorough acquaintance with all the doctrines, theories, and methods of practice — both Surgical and Medical — which had hitherto existed, and gives us a concise and able synopsis of these, as well as an expression of his own opinions, in his work on Medicine above named. Binding himself slavishly to no special system among the many then current, he endeavoured to select the best points of each, and thus form an unbiassed judgment for his own personal guidance. In such respect, therefore, he may be regarded as a typical Eclectic;

certainly he is one of the most impartial and philosophic, as well as elegant and scholarly, of all the older writers upon Medicine and Surgery with whose works we are at the present day acquainted. In the latter department Celsus would seem to have especially excelled, and his descriptions of various operations—*e.g.*, for stone, cataract, hernia, etc., and of fractures, luxations, and injuries to the head and other special regions of the body,—afford ample evidence of his shrewd observation and accurate knowledge.

We are now speaking of a period about fifty years after the Christian Era, and must not pass it over without making allusion to the elder PLINY, who, though in no way a professor of the medical art, is by his writings closely associated with its history. His great work, *Historia Naturalis*, is a truly marvellous example of vast erudition and prodigious industry. It consists of thirty-seven books, and contains a perfect compendium of all that was then known, not merely of Natural History, but of every other branch of Science, Art, and Literature, and has, indeed, been very justly styled a "Cyclopædia of Human Knowledge." In respect of Medicine, or at least of Materia Medica, Pharmacology, and Therapeutics, the writings of Pliny afford us an immense amount of information, some valuable instruction, and, I may perhaps add, not a little amusement.

Two other men of note in connection with Medicine appear to have lived most probably at this period, Dioscorides and Aretæus, though no certainty can be attached to the dates or personal history of either of them. Dioscorides is well known to us as the greatest of all ancient authorities upon Materia Medica, and his great treatise upon this subject continued to form its most valuable record for some sixteen hundred years. He describes, says Dr. Alston, about 200 different vegetables, 90 minerals, and 168 animal substances, all of them supposed to possess more or less therapeutic virtues.

To Aretæus, the Cappadocian, various dates are assigned. He probably, however, flourished towards the latter part of the first century, A.D., coming immediately after Pliny. The writings of Aretæus, such of them as are extant, contain a general essay on diseases, acute and chronic, their causes, symptoms, and treatment. He describes symptoms with the greatest clearness and accuracy, and his therapeutics are based for the most part upon sound and rational principles. He adhered chiefly to the doctrines of the Pneumatics, though in later life he would appear to have embraced more liberal views, and may be in many respects more correctly regarded as an Eclectic. Aretæus is well worthy of a more prolonged notice than time permits us to afford him in this place.

We now come to speak of one of the most remarkable characters that has ever illuminated the pathways of Medicine, one whose writings and opinions have probably exerted a greater influence over the history of this Science, both in ancient and modern times, than those of any other man, with the single exception of Hippocrates. Such was CLAUDIUS GALEN.

Born at Pergamus, A.D., 131, he enjoyed from the first every advantage of education and opportunity of study which the age in which he lived could offer. After perfecting himself in philosophy, mathematics, and all branches of polite literature, Galen resorted to Alexandria for the completion of his special training in Medicine, and afterwards removed to Rome, where he established himself in the practice of his profession. He possessed rare intellectual gifts, keen faculties of observation, and vigorous decision of character—combined, moreover, with enormous industry and unwearied powers of application. This we may gather from the fact that during his life he is believed to have written upwards of three hundred separate treatises upon medical subjects, about a hundred of which have been handed down to us. Of his general and philosophic opinions, it may be said that he adhered strongly to the tenets of Plato and of Aristotle, opposing vehemently those of Epicurus, which were at that period popular in Rome. As regards his Medical doctrines—apart from the element

of philosophic subtleties which extensively pervaded them—he adopted Hippocates as his model, basing his views mainly upon those promulgated by his great predecessor. Galen lived, so to speak, in an atmosphere of professional dissension, when Dogmatists, Empirics, Pneumatics, and Methodics indulged in a perpetual conflict of opinion. In many respects he may be regarded as a Dogmatist, in others as an Eclectic, but his critical acumen and sound judgment saved him in a great measure from falling deeply into the errors of any of the prevailing systems.

The great secret of Galen's success in his own day, and amongst posterity, lay without doubt in his knowledge of *Anatomy*, in which, as also in general Physiology, he far surpassed all his predecessors or contemporaries. He was throughout life a devoted and diligent student of this Science, wisely regarding it as the foundation of all medical knowledge, and he never lost an occasion of impressing its value upon his pupils. He probably had but few opportunities of dissecting the human subject, on account of the popular veneration for the dead, and the strict provisions of the Roman law against their mutilation. But the lower animals, more especially monkeys, which he regarded as most closely resembling our own species in structure, appear to have been the constant victims of his scalpel. Of general Osteology and Myology, Galen had very accurate

notions, and in the latter department especially he made many original investigations, pointing out numerous muscles, the structure and uses of which were previously unknown. In Neurology he did some good work, demonstrating for the first time several important regions of the brain, and the origin, course, and connections of various nerves. As a Physiologist, Galen took his text from Nature, though here again he was too prone to give scope to his active imagination and intuitive love of hypothesis. His anxiety, however, to arrive at truth and solve the great problems of the vital economy, may be gathered from the fact of his having experimented largely upon living animals. His inferences are very often just and correct—always ingenious, if not always logical. He believed in the Aristotelian doctrine of the "elements" and the four "qualities" of heat, cold, moisture, and dryness. The true balance of these in the promotion of the animal functions he regarded as *health;* to their disturbance of proportion he attributed *disease.* Upon these indications and the co-existence of the four "humours" (before referred to), with their corresponding "temperaments," he grounded his pathological principles and his therapeutic practice. Of Surgery Galen speaks comparatively little. As a Physician, he probably derived his greatest celebrity from his skill in diagnosis and prognosis, though, in his treatment of disease, he would seem generally to have resorted to

rational measures, and to have always paid marked attention to the more minute characteristics of morbid action. It is impossible in a short notice like the present to speak more at length of this illustrious man, or make circumstantial reference to his numerous writings; but before quitting the mention of his name it is worth our while, I think, to remark upon the conviction that was in him (as it has been in all the truly great in the world's story) of the presence of an Omniscient and Beneficent Power throughout all the works of Creation. In his admirable treatise, *De Usu Partium* (lib. iii.), occurs that grand and memorable passage, too long for quotation here, wherein Galen—pagan though he was—expresses his enthusiastic adoration of the Deity, and his profound sense of the unerring wisdom and the all-bountiful goodness of the Great Architect of the Universe.

With Galen, Medical Science may be said to have expired in the great empire of the West. The School of Alexandria, which had still continued to foster this study, recovered for a while something of its old repute. But after the death of Galen, as we have seen was also the case after that of Hippocrates, Medicine was practically at a standstill, and few names occur which call for any special note for several succeeding centuries. Of these few perhaps the best known are Oribasius, Aetius, and Paulus Œgineta. The two former were

little more than copyists from Galen, but they did good service to posterity by transcribing and rescuing from oblivion many of the works of that great author, and also by compiling and transmitting to us most full and circumstantial records of the whole history of Medicine from the earliest times. To Oribasius, indeed, and Aëtius, we are indebted for much of the information we now possess of this interesting subject, as we are to Sprengel, Le Clerc, Freind, and others, in more recent times.

Paulus Œgineta, who lived in the sixth century, has a more fitting claim upon our attention, had we but time to speak of him. He also was a strict adherent to the opinions of Galen, but, in addition to his Surgical and other works, he wrote a treatise on Obstetrics which displayed very considerable knowledge of the subject, and which remained for many succeeding generations the standard authority on this branch of Medicine.

The course of our narrative would now bring us to notice the last of the great Schools of Medicine in ancient times, that of *Arabia* and the *Saracens*. Time however does not permit us to do more than merely allude to its existence. About a century after the destruction of the great Library of Alexandria, in A.D. 651, and on the building of Bagdad, and the firm establishment of Moslem supremacy in the East, the study of Medicine, along with other branches of learn-

ing, revived under the patronage of the Khalifs, and continued to retain something of a scientific character for about five hundred years. The most celebrated of the Arabian physicians were RHAZES, AVICENNA, AVERRHOES, and ALBUCASIS, but we cannot now stop to discuss their individual merits. The claims of the Arabians are perhaps less upon our admiration than our gratitude, in that they did not so much improve upon as preserve and hand down to us the doctrines of the early Greek and Roman physicians. To them, indeed, we owe the description of several diseases till then unknown, such as the *Small-pox* and *Measles;* but they made little or no advance in Pathology, none whatever in Anatomy or Physiology, and scarcely any in Surgery. In the departments only of Materia Medica, Botany, Pharmacy, and Chemistry—which last Science they had the credit of discovering—can they be said to have substantially assisted in the development of Medical knowledge.

With the decay of the Saracenic School, in the twelfth century, ends the History of what may be strictly termed *ANCIENT* MEDICINE; and our present epitome of it, already extending far beyond originally prescribed limits, must perforce end here also. At this epoch in the annals of civilisation, a deep moral and intellectual gloom descended upon the nations, and overshadowed the whole face of society. For a period of three hundred years—justly known as "the dark

ages"—Medicine, along with all other branches of human knowledge, fell into utter neglect and degradation, and, until the revival of letters and the dawn of a new daylight of science, remained a prey to the most profound ignorance, and the grossest forms of knavery and superstition.

I would now ask leave of my audience to address a few words of friendly counsel, more especially to its *Student* members, and to those in particular whom we see amongst us to-day for the first time. It is no part of my intention, even if time allowed, to enter into the details of Medical Education, or the nature and object of its various branches. This has been often and ably done already; and in the Prospectus of our own School the Student will find a lucid and concise summary of all the information he is likely to require upon the subject. There are, however, just two or three points to which I would wish to draw special attention.

I take it for granted that each one of you who is to-day commencing the study of Medicine has fully assured himself of his fitness and taste for the profession he has chosen; that he is entering upon it with something of enthusiasm, and with a determination to pursue it, undeterred by the trials, anxieties, and serious disappointments, which he must frequently and of necessity encounter. To such of you I would say—Decide from

the first upon the degree or qualification you intend subsequently to obtain; and in so doing let me strongly urge you to aim at the highest that is within your reach. Circumstances differ greatly, I am aware, in individual cases, and must of course receive due and careful consideration. Some of you there may be who have already a definite course marked out for you to follow, in preparing for which you must be guided by your own judgment and the advice of those most competent to be your mentors. But addressing myself in general terms to those of my junior hearers who, with as yet no defined prospects before them, have the required means and opportunities at their disposal, and the ability and inclination to avail themselves of the same,—I would confidently reiterate my previous advice. Although the possession of a high degree, or first-rate diploma, will not necessarily constitute a man an able or even a successful practitioner, yet I would have you by no means despise, as many are too apt to do, these very useful passports towards effecting a favourable start in life and the attainment of a good ultimate status in your profession. Do not let the mere dread of what may be regarded as the higher and perhaps more severe examinations deter you from preparing for and undertaking them. Examinations are useful and indispensable tests of knowledge; as such they have to be encountered, and it is better to face the prospect of them

boldly from the first. That a large and very varied amount of knowledge (perhaps too large, or at least too varied,) is required of the medical student of the present day, cannot be denied; but I know of no examination in this country, which is not competitive and where a fixed standard only is required, that any youth of average intellectual powers, sound general education, and, above all, determined diligence, should not be able to pass at least with certainty and credit, if not indeed with "honours" where such are attainable. I would have each one of you remember the words of *Richelieu*, in Lord Lytton's drama of that name :—

> "In the lexicon of youth, which Fate reserves
> For a bright manhood, there is no such word
> As—*fail*."

And rest assured that, if you will but do justice to yourselves by working honestly and well, you will have small need to realise the meaning of the term. Remember, too, that as yet you have all before you, and that *now* is the time for qualifying yourselves for the duties and requirements of your future calling, before the cares and responsibilities of an anxious—and, I hope in the case of all of you, a busy and remunerative—practice leave you but little inclination and less leisure for the pursuit of that kind of preliminary work which belongs more essentially to your student days.

There is just one more point to which I would call

your attention—*the necessity for note-taking*. This matter was alluded to by Dr. Caton in his address delivered to you two years ago, but it is one of such vast importance that I am sure he will need no apology from me if I again revert to it. Acquire the habit of taking notes from the first, not in the lecture-room and laboratory only, but more especially, later on, in the wards of the hospital. While you are clinical clerks you will have this duty to perform for the respective members of the hospital staff under whom you hold office, but I advise each one of you to do it also for himself. Have your note-book always at hand, to jot down briefly the salient points, either of a systematic lecture, a physiological or chemical demonstration, or a case of disease in the wards. In the last instance, note down the chief features in the history, symptoms, and treatment, and especially the progress and result of the case, following it, when possible and if death supervene, into the *post-mortem* room. Lastly, when your note-book is full, treasure it carefully, for it will probably prove of great use to you some day, and afford you most valuable data for reference at, it may be, a long period hence.

The late Sir Benjamin Brodie, in his "Autobiography" — (that most excellent book which every student will do well to read), speaking of the practice of note-taking, remarks, "After an experience of nearly fifty years, I am satisfied that no one can be well

acquainted with his profession, either as a physician or a surgeon, who has not studied it in that manner."

A word to those of you who are fast approaching the termination of your student life, and who, before another October comes round, will probably be duly qualified practitioners. Your time is short. Seize every possible opportunity of improving what remains of it, and of acquiring that kind of knowledge which will be of most service to you in your after career. Especially should the senior student pay attention to *Pathology* and *Morbid Anatomy*. Comparatively few chances occur in private practice for the observation of *post-mortem* phenomena. The modern Briton, like the ancient Greek, has a certain veneration for his dead, and in many cases a rooted prejudice against their immolation on the altar of Science.

The four years ordinarily allotted to a course of medical study are all too short, and the amount of practical knowledge gained during that brief period must of necessity be very limited. Hence the great desirability of obtaining, when possible, the post of *House-surgeon* or *House-physician* in a hospital. Of the value of such appointments I cannot speak too strongly — as means of acquiring not only increased experience but also personal confidence and promptitude, and thus paving the way in the most effectual manner for undertaking the responsibilities and com-

bating the emergencies of subsequent private practice. I have before alluded to the many advantages afforded by our Medical School; and in no respect are these more evidenced than by the fact that several resident appointments in the Royal Infirmary are now thrown open half-yearly to our more distinguished students, after qualification.

In closing my remarks to you, my student friends, let me ask you to bear always in mind the great aim and object of your future vocation — the *Healing of Disease;* and, while pursuing this object with diligence and ardour, beware lest you degrade a noble Science into a mere means of enhancing your own reputation, or of earning a good social or pecuniary position. With no higher or more distinctive motives than these, you will have but little chance of gaining the respect of your professional brethren, or the confidence of the public at large. Above all, never forget that you are *Gentlemen*, in the best sense of the word,—members of a high and liberal profession, the honour and usefulness of which rest for their vindication in your hands.

"*Licet enim omnibus — licet enim mihi — dignitatem Medicæ Artis tueri*" *

are the words of the greatest of Roman orators; and if that obligation was felt, nearly two thousand years ago,

* Cicero, *De Oratore*.

by one who was not himself a member of our profession, how much more should a like chivalrous spirit animate each one of us in the present day, with our increased advantages, our improved scientific knowledge, and our higher moral and social responsibilities!

Gentlemen, I must hasten to conclude, for I have already trespassed too long upon your time and attention. Upon the very wide scope of my principal subject, and the extreme difficulty of compressing even its most superficial details within limits appropriate to this occasion, I must ground my appeal to your patience and clemency.

The History of *Ancient Medicine* has doubtless been long familiar to many of my hearers; for others it may, perchance, have had something of the charm of novelty. I have sought to-day—how imperfectly I am but too conscious—in the former case to refresh old memories, in the latter to stimulate attention to the fuller consideration of a subject which is not one of mere curiosity and passing interest, but of real importance and practical utility to every man who seeks to follow his profession in a liberal and philosophic spirit. For, inasmuch as the great object of all History is to deduce from the past instruction for the future, let us not forget that—no less from the fallacious doctrines, rash experiments, and mistaken methods of treatment adopted

by our forefathers, than from their diligent researches, faithful observations and ingenious discoveries—we may learn an invaluable lesson: that so, profiting by their experience, we may accept the true and reject the false, and, avoiding the resuscitation of exploded errors, may arrive at "sober conclusions in theory, and successful treatment in practice."

Finally, I would say that, while I have endeavoured to attach due importance to the achievements of the Ancients, I would altogether disclaim the character of a mere *laudator temporis acti.* For I firmly believe that in no department of modern civilisation does what Southey has designated "the march of intellect" more strongly exhibit itself than in the recent advancement of *Medical Science.* Thanks to the keen spirit of enquiry which is abroad, to the improved means and appliances for diagnosis which we possess, and, above all, to the many able and earnest workers in our midst,—the mists are fast clearing away from the pathology of obscure diseases; new and invaluable physiological facts are being daily elucidated; and new therapeutic and operative measures adopted with success. Theories and opinions are, it is true, still too often at variance amongst us, and the proverbial disagreements of Doctors continue to afford food for the sarcastic pleasantry of the multitude. But let us hope that as each year rolls on, while independence of thought and

originality of research still retain their vigour, there may be an increasing unity of purpose and harmony of action throughout the ranks of our profession—the sure and happy results of a perfected standard of knowledge. So that, bearing ever in our minds a grateful memory of the good work done by our predecessors, and not ceasing to gather present instruction from "the garnered wisdom of the past," we may be able to re-echo, in no vain-glorious spirit, the proud words of that well-greaved Greek, Sthenelus the son of Capaneus,—

"Ἡμεῖς τοι πατέρων μέγ' ἀμείνονες εὐχόμεθ' εἶναι." *

* Hom. *Il.*, iv., 405.